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(54) Rare earth/iron/boron-based permanent magnet alloy composition

(57) Disclosed is a rare earth/iron/boron-based permanent magnet alloy composition capable of giving, by a powder metallurgical process, a permanent magnet having excellent coercive force and residual magnetization as well as good squareness ratio of the hysteresis loop. The magnet alloy composition consists of:

(a) from 28 to 35% by weight of a rare earth element selected from the group consisting of neodymium, praseodymium, dysprosium, terbium and holmium;
(b) from 0.1 to 3.6% by weight of cobalt;
(c) from 0.9 to 1.3% by weight of boron;
(d) from 0.05 to 1.0% by weight of aluminum;
(e) from 0.02 to 0.25% by weight of copper;
(f) from 0.02 to 0.3% by weight of zirconium or chromium;
(g) from 0.03 to 0.1% by weight of carbon;
(h) from 0.1 to 0.8% by weight of oxygen;
(i) from 0.002 to 0.2% by weight of nitrogen; and
(j) the balance to 100% by weight of iron and unavoidable impurity elements.

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